## **Fishery Bulletin**

## CONTENTS

Vol. 81, No. 4 October 1	983
GRANT, W. STEWART, RICHARD BAKKALA, FRED M. UTTER, DAVID J. TEEL, and TOKIMASA KOBAYASHI. Biochemical genetic population structure of yellowfin sole, <i>Limanda uspera</i> , of the North Pacific Ocean and Bering Sea	667
Bight	679
FRITZ, LOWELL W., and DEXTER S. HAVEN. Hard clam, Mercenaria mercenaria:	cos
Shell growth patterns in Chesapeake Bay	697
king mackerel, Scomberomorus cavalla, in the southeastern United States	709
MAJKOWSKI, J., and J. HAMPTON. The estimation of a catch level which stabilizes the	
parental biomass of an exploited fish stock	723
BROUSSEAU, DIANE J. Aspects of reproduction of the blue mussel, Mytilus edulis	
(Pelecypoda: Mytilidae) in Long Island Sound	733
METHOT, RICHARD D., Jr. Seasonal variation in survival of larval northern anchovy, Engraulis mordax, estimated from the age distribution of juveniles	741
TURNER, S. C., C.B. GRIMES, and K. W. ABLE. Growth, mortality, and age/size struc-	741
ture of the fisheries for tilefish, Lopholatilus chamaeleonticeps, in the Middle Atlantic-	
Southern New England region	751
PETERSON, C. H., P. B. DUNCAN, H. C. SUMMERSON, and G. W. SAFRIT, Jr. A mark-recapture test of annual periodicity of internal growth band deposition in shells of hard clams, <i>Mercenaria mercenaria</i> , from a population along the southeastern United	
States	765
WALSH, WILLIAM A., and WILLIAM A. LUND, Jr. Early development of the longhorn sculpin, Myoxocephalus octodecemspinosus	781
FRY, BRIAN. Fish and shrimp migrations in the northern Gulf of Mexico analyzed using	101
stable C, N, and S isotope ratios	789
SHEPHERD, GARY, and CHURCHILL B. GRIMES. Geographic and historic variations in growth of weakfish, Cynoscion regalis, in the Middle Atlantic	
Bight	803
McCABE, GEORGE T., Jr., WILLIAM D. MUIR, ROBERT L. EMMETT, and JOSEPH	
T. DURKIN. Interrelationships between juvenile salmonids and nonsalmonid fish in	015
the Columbia River estuary	815

(Continued on next page)

Seattle, Washington

1983

BOLZ, GEORGE R., and R. GREGORY LOUGH. Growth of larval Atlantic cod, Gadus morhua, and haddock, Melanogrammus aeglefinus, on Georges Bank, spring 1981  STONER, ALLAN W. Distribution of fishes in seagrass meadows: Role of macrophyte biomass and species composition	827 837
WATSON, WILLIAM. Redescription of larvae of the pigfish, Orthopristis chrysop- tera Linnaeus (Pisces, Haemulidae)	847
SHERMAN, K., J. R. GREEN, J. R. GOULET, and L. EJSYMONT. Coherence in zooplankton of a large northwest Atlantic ecosystem	855
(Decapoda: Xanthidae)	863
Notes	
SULLIVAN, BOLLING, KATIE MILLER, KATHLEEN SINGLETON, ANTHONY G. SCHEER, and AUSTIN B. WILLIAMS. Electrophoretic analyses of hemocyanins from four species of mud crabs, genus <i>Panopeus</i> , with observations on the ecology of <i>P</i> .	
obesus	883
herbstii H. M. Edw., s.l., complex in Alabama, U.S.A.  HAYNES, EVAN B., and STEVE E. IGNELL. Effect of temperature on rate of em-	885
bryonic development of walleye pollock, <i>Theragra chalcogramma</i>	890
Mexico	895
VAN HEUKELEM, W., M. C. CHRISTMAN, C. E. EPIFANIO, and S. D. SULKIN.	898
Growth of Geryon quinquedens (Brachyura: Geryonidae) juveniles in the laboratory OXENFORD, HAZEL A., and WAYNE HUNT. Age and growth of dolphin, Coryphaena	903
hippurus, as determined by growth rings in otoliths	906
of aerial, shipboard, and land-based survey methodology for the harbor porpoise,  Phocoena phocoena	910
ITZKOWITZ, NORMAN, and J. R. SCHUBEL. Tolerance of five-day-old winter flounder,	
Pseudopleuronectus americanus, larvae to thermal shock	913
tes) tagged in northern Puget Sound, Washington	916 923

## **Notices**

NOAA Technical Reports NMFS published during the first six months of 1983

The National Marine Fisheries Service (NMFS) does not approve, recommend or endorse any proprietary product or proprietary material mentioned in this publication. No reference shall be made to NMFS, or to this publication furnished by NMFS, in any advertising or sales promotion which would indicate or imply that NMFS approves, recommends or endorses any proprietary product or proprietary material mentioned herein, or which has as its purpose an intent to cause directly or indirectly the advertised product to be used or purchased because of this NMFS publication.